2685

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TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

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Filing Date	01/22/2001
First Named Inventor	Phillip Jarrett
Group Art Unit	2685
Examiner Name	Charles C Chow
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Attorney Docket Number	—

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  - ☐ Fee Attached
- ☐ Amendment / Reply
  - ☐ After Final
  - ☐ Affidavits/declaration(s)
- ☐ Extension of Time Request
- ☐ Express Abandonment Request
- ☐ Information Disclosure Statement
- ☑ Certified Copy of Priority Document(s) 4 DOCS
- ☐ Response to Missing Parts/ Incomplete Application
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- ☐ Assignment Papers *(for an Application)*
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- ☐ Licensing-related Papers
- ☐ Petition
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- ☐ Proprietary Information
- ☐ Status Letter
- ☐ Other Enclosure(s) *(please identify below)*:

Remarks: GB PATENT APPLICATIONS
0024341.0
0001754.1
0023256.1
0019189.0

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm or Individual name	Phillip Jarrett
Signature	P Jarrett
Date	29th JANUARY 2004

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INVESTOR IN PEOPLE

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Signed P. Mahoney

Dated 21 January 2004

Patents Form 1/77

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1. Your reference: 2-PIECE MOBILE PHONE

2. Patent application number *(The Patent Office will fill in this part)*: **0024341.0** 5 OCT 2000

3. Full name, address and postcode of the or of each applicant *(underline all surnames)*:
PHILLIP JARRETT
74 ADELAIDE ROAD
BRAMHALL
CHESHIRE
SK7 1LU

Patents ADP number *(if you know it)*: 35769310001

If the applicant is a corporate body, give the country/state of its incorporation:

4. Title of the invention:
2-PIECE MOBILE PHONE WITH ENHANCED DISPLAY

5. Name of your agent *(if you have one)*:
JARRETT ASSOCIATES
EAGLE COURT
CONCORD BUSINESS PARK
THREAPWOOD ROAD
MANCHESTER
M22 0RR

"Address for service" in the United Kingdom to which all correspondence should be sent *(including the postcode)*

Patents ADP number *(if you know it)*: 79861280001

6. If you are declaring priority from one or more earlier patent applications, give the country and the date of filing of the or of each of these earlier applications and *(if you know it)* the or each application number

Country	Priority application number *(if you know it)*	Date of filing *(day / month / year)*

7. If this application is divided or otherwise derived from an earlier UK application, give the number and the filing date of the earlier application

Number of earlier application	Date of filing *(day / month / year)*

8. Is a statement of inventorship and of right to grant of a patent required in support of this request? *(Answer 'Yes' if:*
a) any applicant named in part 3 is not an inventor, or
b) there is an inventor who is not named as an applicant, or
c) any named applicant is a corporate body.
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NO

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(2 COPIES OF EACH)

Continuation sheets of this form	
Description	5 PAGES
Claim(s)	—
Abstract	—
Drawing(s)	4 PAGES (FIGS 1 - 6)

10. If you are also filing any of the following, state how many against each item.

Priority documents	
Translations of priority documents	
Statement of inventorship and right to grant of a patent *(Patents Form 7/77)*	
Request for preliminary examination and search *(Patents Form 9/77)*	
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Any other documents *(please specify)*	

11. I/~~We~~ request the grant of a patent on the basis of this application.

Signature P Jarrett Date 4th October 2000

12. Name and daytime telephone number of person to contact in the United Kingdom PHIL JARRETT 0161-440-5269

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2-PIECE MOBILE PHONE WITH ENHANCED DISPLAY

The present invention relates to a mobile phone comprising two separate components, one of which houses an enhanced display screen.

Throughout the following description and claims, mobile phone is used as a generic term for any compact portable device (for example, handheld phones, wrist phones, wearable phones incorporated into clothing) suitable for personal mobile communication of voice/sound, data and/or visual image signals via a radio link.

Mobile phones are currently available with built in internet browsers, based on Wireless Application Protocol (WAP) allowing access to various specially designed web sites. However, due to the low bandwidth of existing digital networks, these web sites are limited in content and the small-sized display screen typically available with a mobile phone thus tends to be adequate, even if not ideal for "surfing" purposes - particularly due to the narrow width of the display screen.

Nevertheless, it is planned to introduce so called Third Generation (3G) mobile phone systems over the next few years involving more advanced application protocols and new cellular infrastructures providing substantially increased bandwidth, allowing more complex images to be communicated. In view of this, the need for better displays for these images will increasingly become more acute.

The traditional mobile phone of the handheld type typically has a small display screen, due to up to half of the available area having been allocated to the numeric keypad. In order to address this issue, two new types of handheld mobile phone housing wider image display screens have recently become commercially available. The first type (for example, the Nokia 9110) comprises two components which are longitudinally hinged together and, when opened, provide the user with an internal elongated display screen along with an alphanumeric keypad. The second type (for example, the Ericsson R380 series) has an external elongated display screen having a transversely hinged numeric keypad and, when the latter is moved out of the way, the full width of the screen is visible to the user.

Although both of the described types of enhanced display mobile phone provide the user with a wider screen than traditionally available, the height of the screen is strictly limited to allow the handset to fit comfortably into the palm of the hand. Also, many users like to keep their mobile phone within a case to protect the phone and/or to provide a convenient belt clip. Under these circumstances, it is necessary to remove the mobile phone from its case in order to view the enhanced display screen.

The present invention overcomes the above limitations of the described prior art by having an enhanced display screen which is housed in a separate radio linked phone component. The latter can thus be provided with a significantly taller screen and may conveniently be stored in a hand/shoulder bag or briefcase when not in use. Alternatively, if the separate radio linked component is to be housed in a protective case, an external screen can be fully viewed (via a transparent cover) without removal from the latter.

Some specific embodiments of the present invention will now be described, as examples, with reference to the accompanying drawings:-

Fig 1 shows the traditional type of mobile phone handset layout, having a numeric keypad and a small display screen;

Fig 2 is a plan view of a separate radio linked mobile phone component housing an enhanced display screen;

Fig 3 is an end view of the separate radio linked mobile phone component shown in Fig 2;

Fig 4 is a block diagram of one embodiment of the present invention, showing two mobile phone components linked by Bluetooth radio signals, one housing the GSM transceiver and the other the enhanced display screen;

Fig 5 is a block diagram of a second embodiment of the present invention, showing two mobile phone components linked by Bluetooth radio signals, the GSM transceiver and the enhanced display screen both being housed in the same component;

Fig 6 is a plan view of the separate radio linked mobile phone component shown in Fig 1, having a touch-sensitive screen when keyboard mode has been selected.

Referring to Fig 1, the traditional mobile phone handset has an elongated case adapted for holding in the hand with the user access functions conveniently incorporated on one of its larger flat sides. These functions typically comprise the display screen 1, the keypad 2 (the pushbutton keys are normally 3 columns wide x 4 rows deep), the screen navigation key 3 plus ancillary keys 4 (normally there are 3-5 keys), the on/off switch 5 (positioned some distance away from keypad 2 to avoid unintentional activation) and the earpiece 6. In order to provide a more compact layout, the microphone (not shown) is often incorporated along one elongated side of the phone. However, due to the keypad 2 occupying up to 50% of the available space, the area of the display screen 1 is typically limited around 25% of the available space.

Referring to Figs 2 and 3, enhanced display screen 7 is housed within the separate radio linked mobile phone component 8, powered by a rechargeable battery (not shown). It will be noted that the external screen 7 is shown as being substantially wider and taller than the display screen 1 shown in Fig 1.

Referring to Fig 4, mobile phone handset 16 houses the phone keypad and small display screen 12, plus GSM transceiver 9 for communicating via antenna 10 with a local cellular network base station (not shown). In addition, the handset 16 houses a Bluetooth transceiver 11 for communicating via antenna 14 signals 13 with the separate phone component 17. As well as housing the enhanced display screen 15, phone component 17 also houses a Bluetooth transceiver 11 for communicating via antenna 14 signals 13 with mobile phone handset 16.

Referring to Fig 5, mobile phone handset 18 houses the phone keypad and small display screen 12 plus a Bluetooth transceiver 11 for communicating via antenna 14 signals 13 with the separate phone component 19. As well as housing the enhanced image display screen 15, phone component 19 houses both a Bluetooth transceiver 11 for communicating via antenna 14 signals 13 with mobile phone handset 18. In addition, component 19 houses GSM transceiver 9 for communicating via antenna 10 with a local cellular network base station (not shown).

Comparing the embodiments shown in Fig 4 and Fig 5, it will be noted that the handset 16 is able to communicate directly with a cellular network base station (not shown) on an independent basis; on the other hand, handset 18 has to communicate via separate phone component 19. However, whereas handset 16 has to transmit relatively powerful GSM signals capable of communicating over a range of up to several kilometres; handset 18 only needs to transmit much weaker Bluetooth signals having an adequate range of a few metres. In other words, although the embodiment shown in Fig 5 requires both components 18 and 19 to be present, it has the advantage of providing the user with a low radiation handset 18 thus avoiding the emission of allegedly harmful radiation near to the user's head.

The mobile phone handsets 16 and 18 could have the traditional type of keypad and display layout as shown in Fig 1. The latter type of layout is fully adequate for normal voice communication purposes, the screen 1 being satisfactory for displaying any phone number entered via numeric keypad 2. However, when more complex images are being communicated, such as associated with the present WAP or the future 3G mobile internet, then the respective radio linked phone components 17 and 19 can be visually accessed, making use of key 3 (shown in Fig 1) for screen navigation purposes.

Referring to Fig 6, screen 7 is shown as being selectively touch-sensitive and thus can be used as an alphanumeric keyboard for text entry purposes, for example, when composing messages to be sent via SMS or WAP mail. However, due to the relatively small size of the touch-sensitive keys, it is preferable to use a suitable hand-held data entry "pen" having a small diameter flat end to activate each key in turn.

Referring again Fig 6, the keyboard shown includes a full alphabet of keys 21 (arranged in QWERTY layout), numeric keys 20, back-space key 26, return key 27, shift keys 28, caps lock key 22, spacer bar 23, plus various ancillary keys 24. The latter take up the bottom two-thirds of the screen space with the top third 25 being available for text display purposes.

The described mobile phone embodiments incorporate the European GSM technology standard for communication with a cellular network base station. However, embodiments using other

technology standards are possible, for example: using CDMAOne or WCDMA as commonly employed in North America, or the PDC standard used in Japan. At the present time, 3G systems are being developed and the use of wireless technologies such EDGE and GPRS followed by the evolution of UMTS thus provide further options for future embodiments.

The described embodiments incorporate the Bluetooth technology standard for communication between the two mobile phone components, the latter standard operating in the ISM band at 2.4 GHz. Similarly, other short-range radio communication technology options are available such as the European DECT (Digital Enhanced Cordless Telephony) standard, or, the North American PWT (Personal Wireless Telephony) standard.

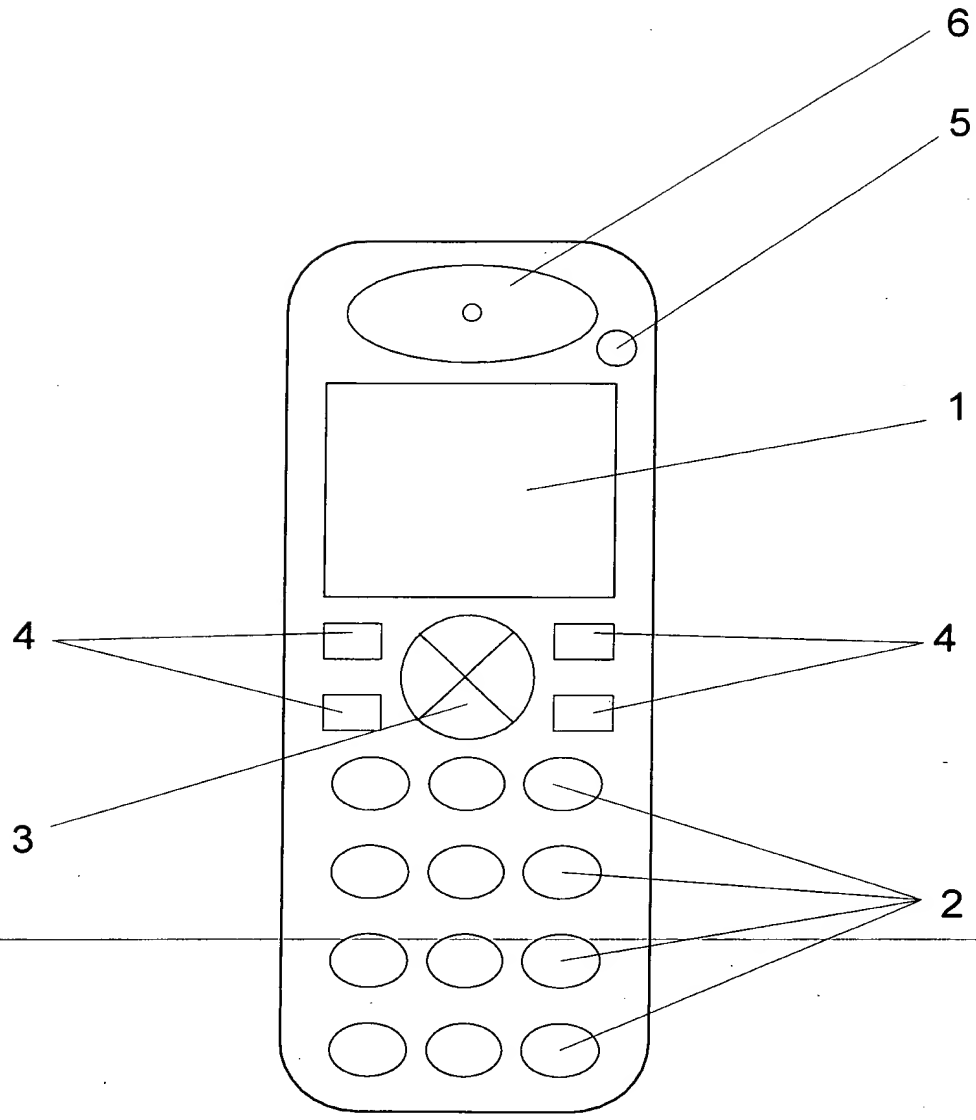


Fig 1

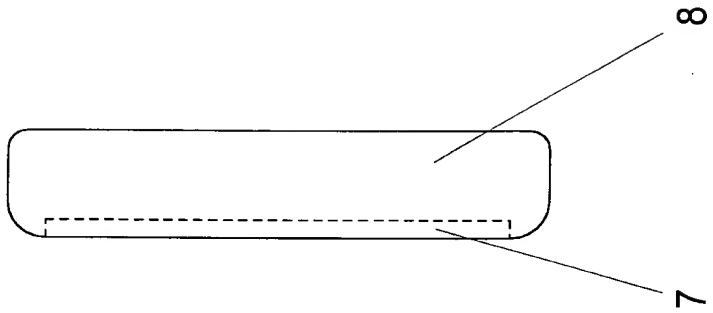


Fig 3

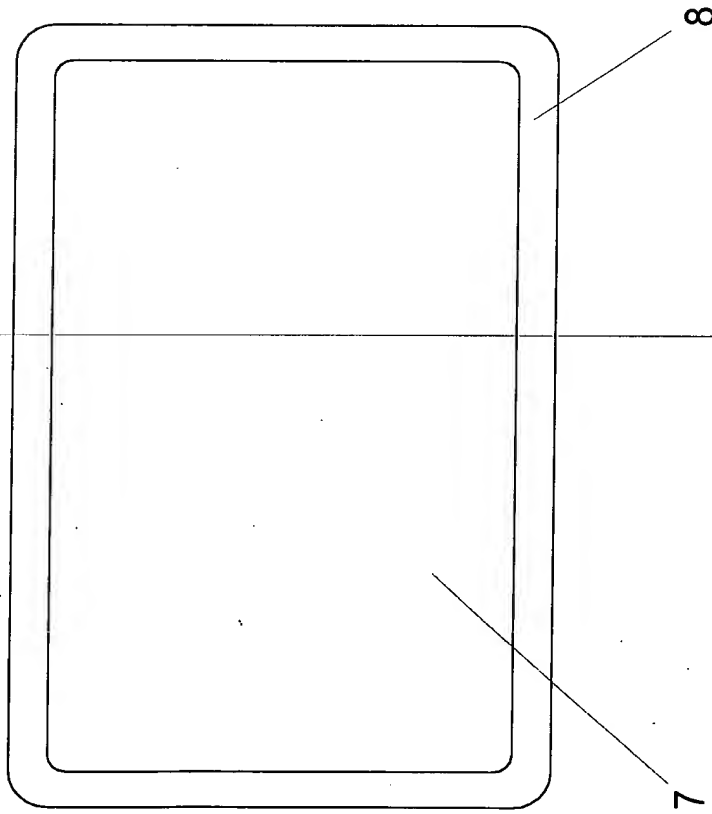
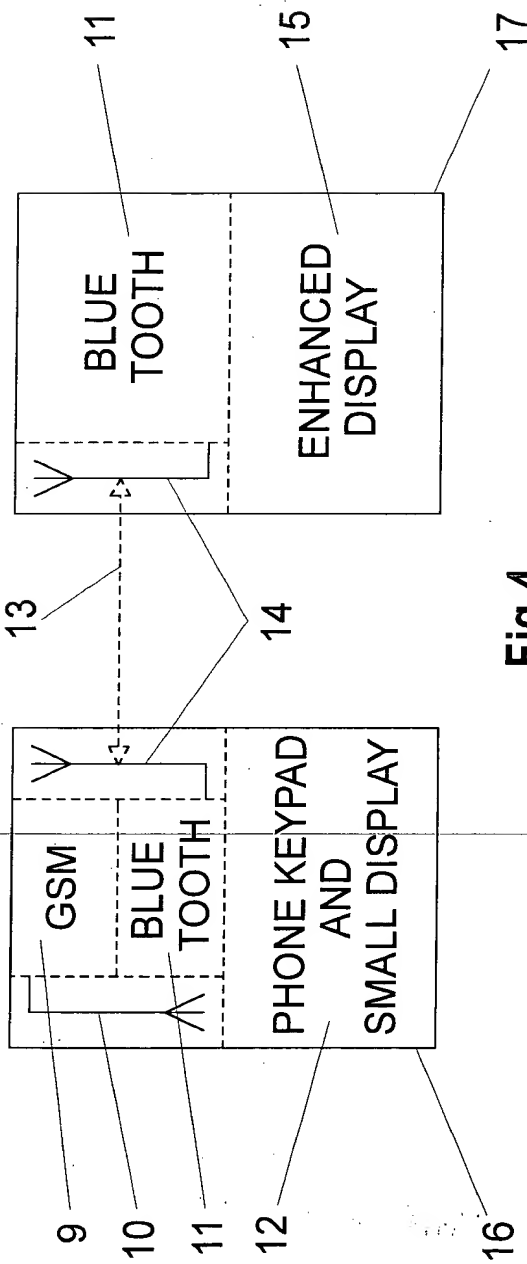


Fig 2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15
17
BLUE TOOTH
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13
14
GSM
BLUE TOOTH
PHONE KEYPAD AND SMALL DISPLAY
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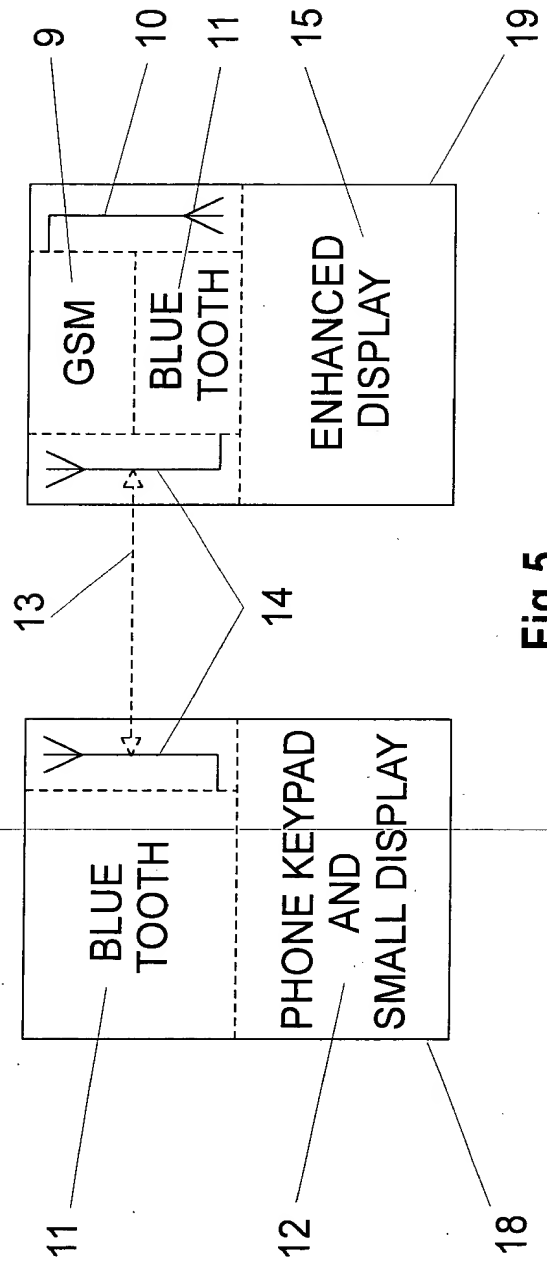
10
11
12
16

Fig 4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GSM
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PHONE KEYPAD AND SMALL DISPLAY
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12
18

Fig 5

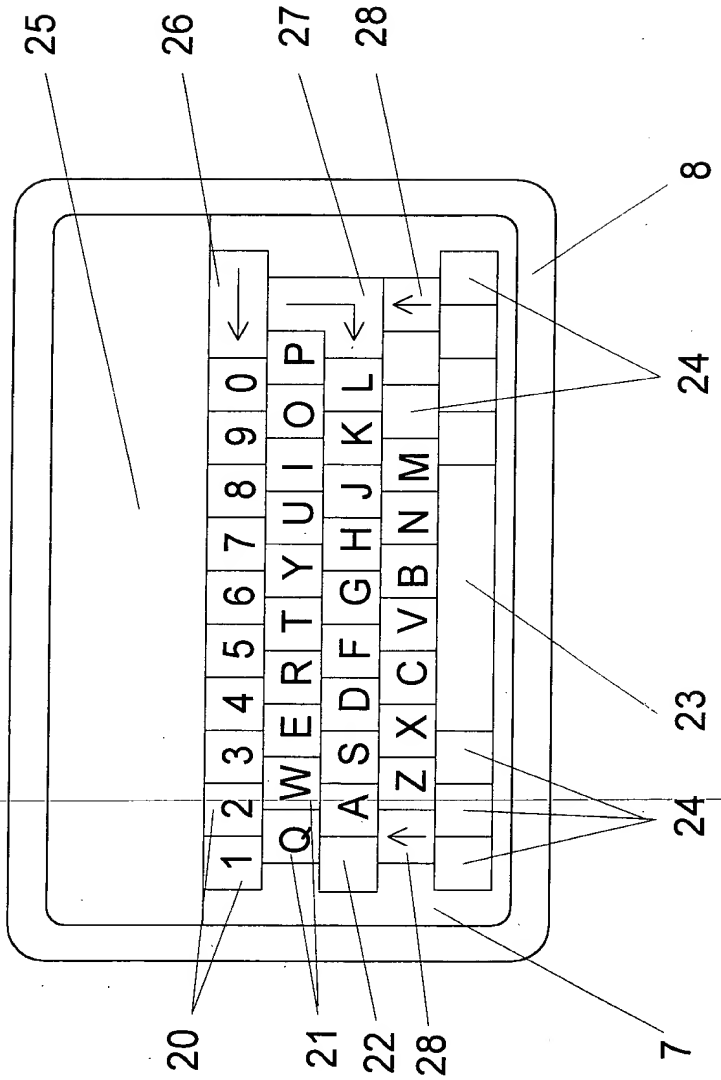
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Fig 6